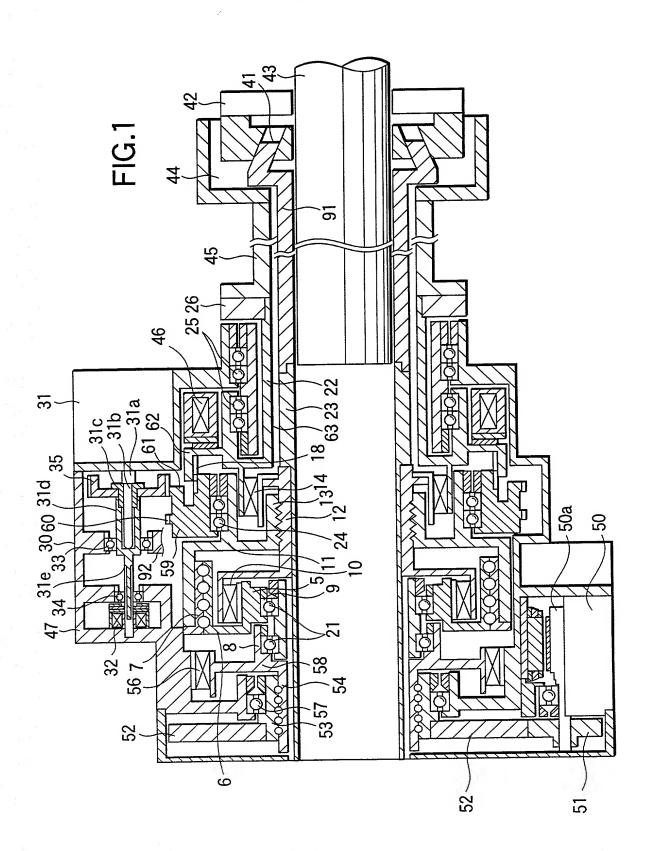
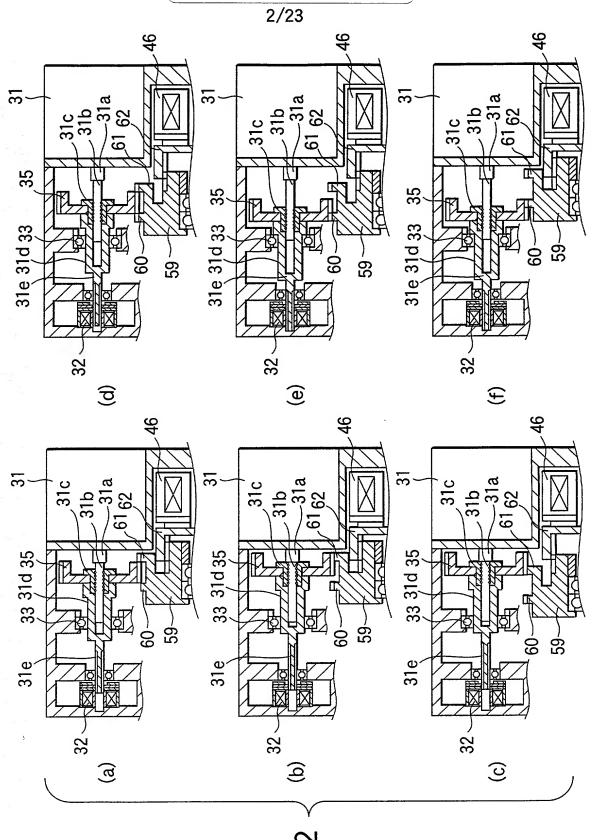
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ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002

Darryl Mexic
202-293-7060
1 of 23

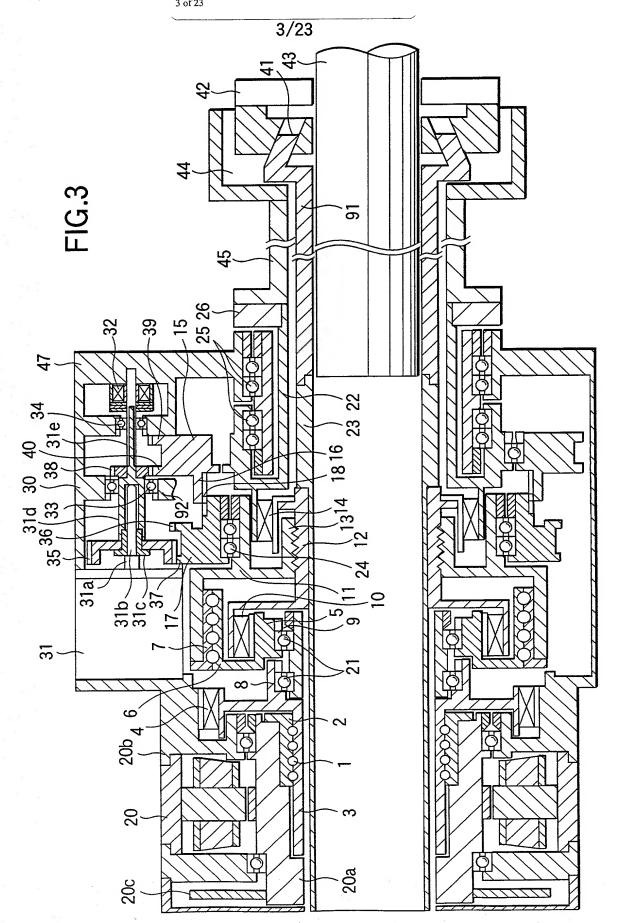


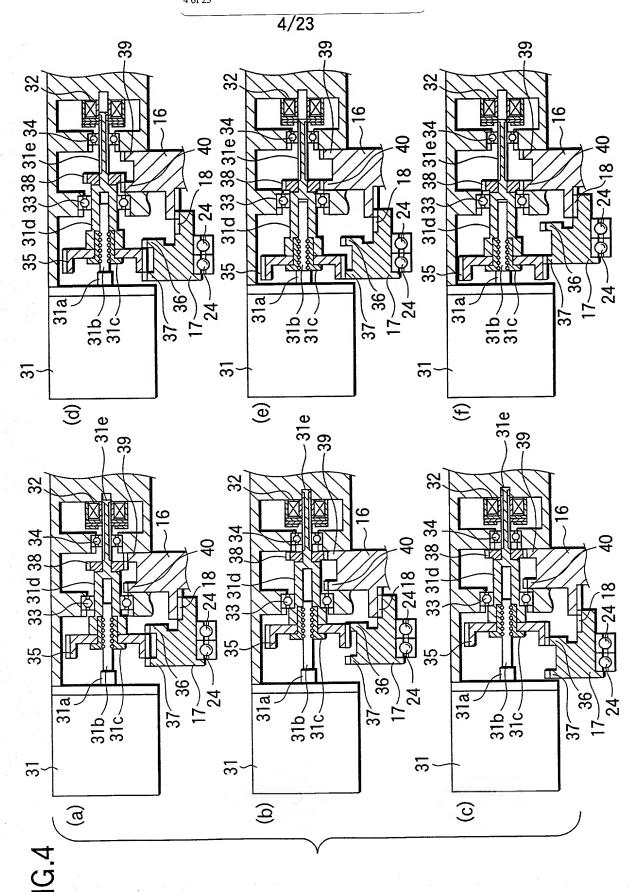
ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed. February 12, 2002
Darryl Mexic
202-293-7060
2 of 23



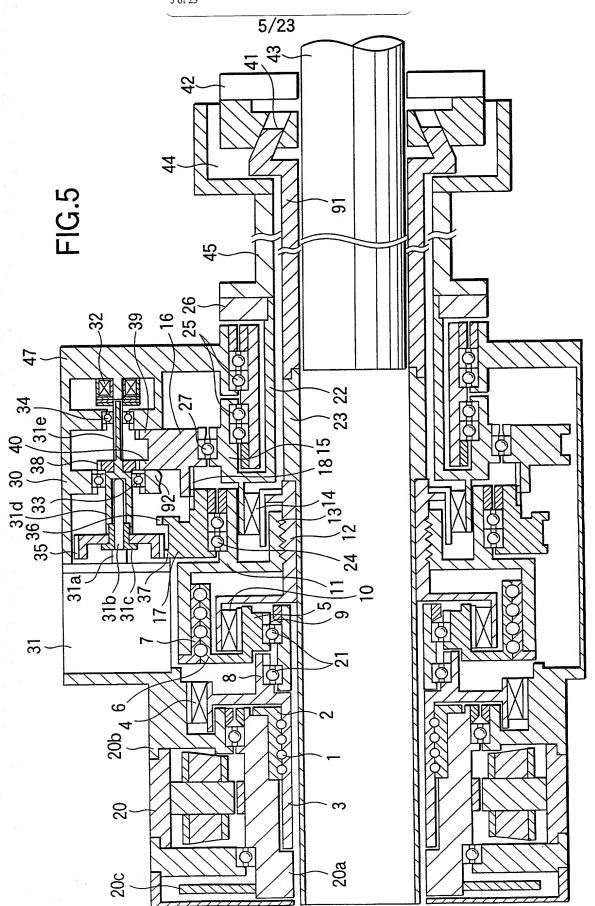
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ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
3 of 23

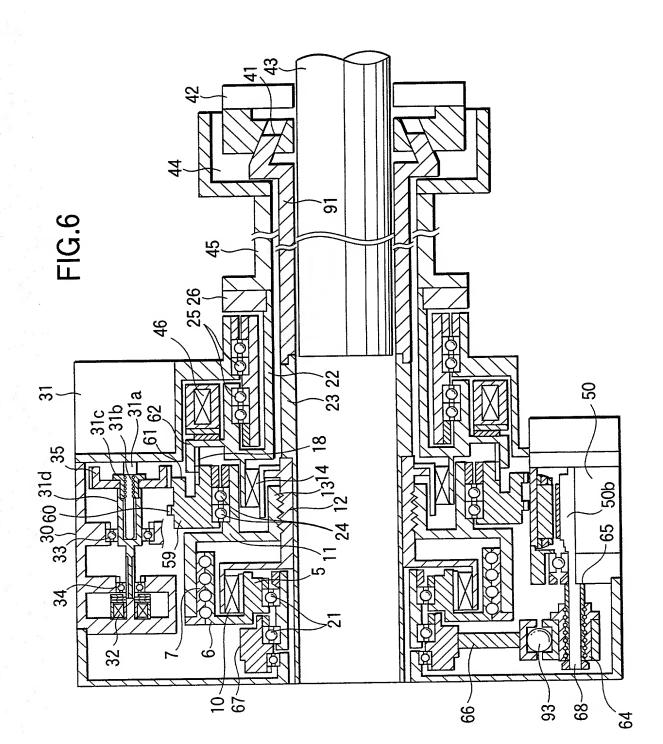




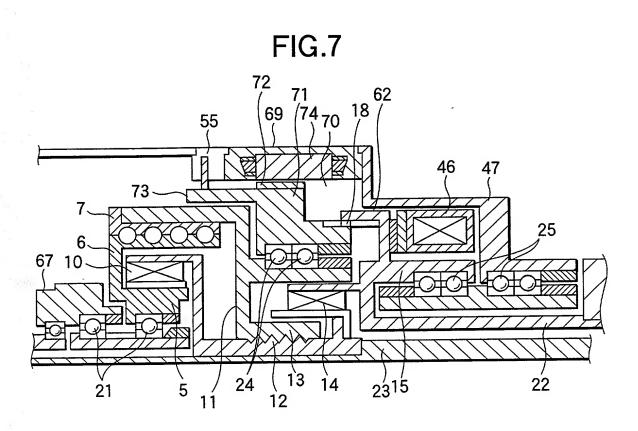
ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
5 of 23



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
6 of 23



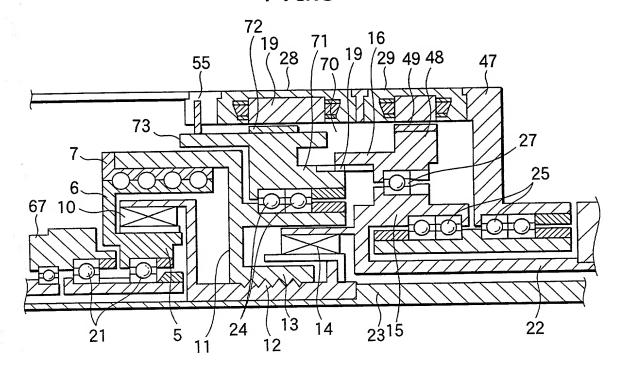
ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
7 of 23



ITO, et al. Q68131 THRUST CONVERTER AND METHOD APPARATUS FOR CONTROLLING THRUST CONVERTER Filed: February 12, 2002 Darryl Mexic 202-293-7060 8 of 23

8/23

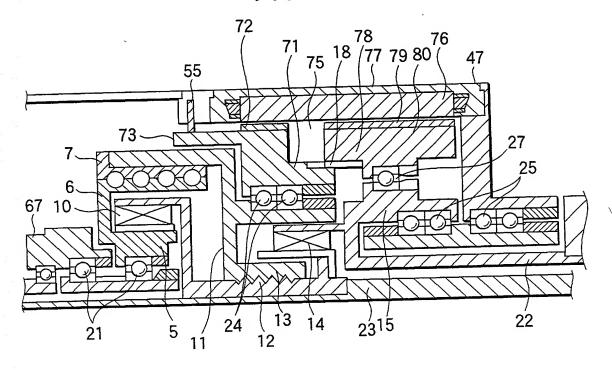
FIG.8



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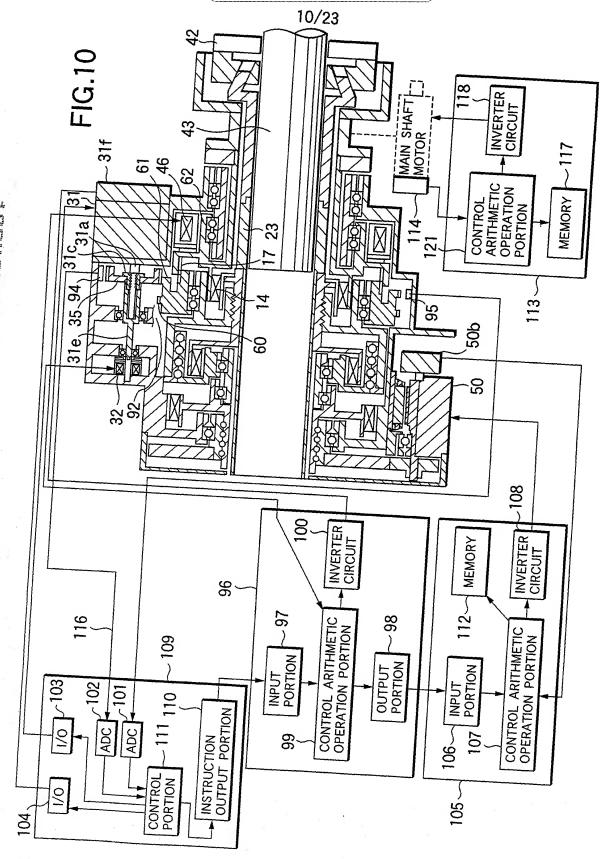
ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
9 of 23



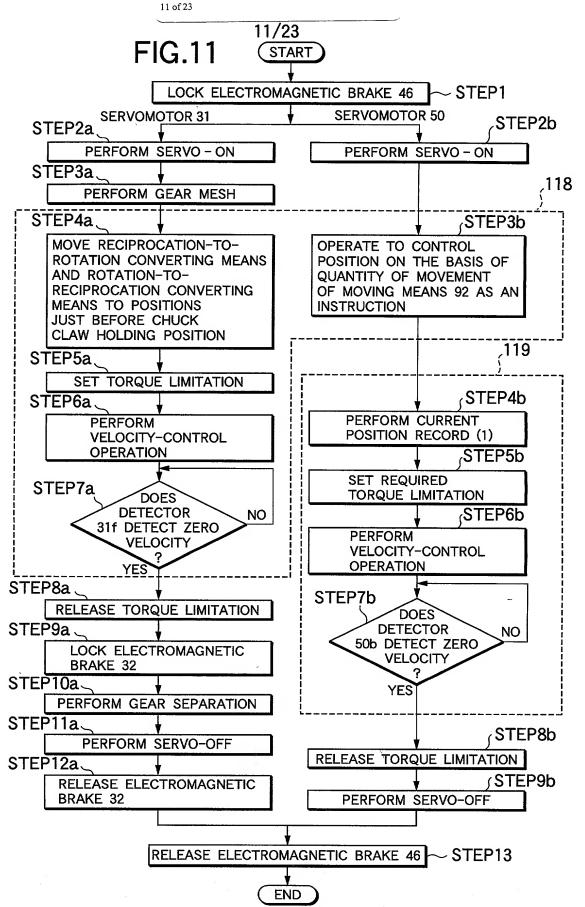


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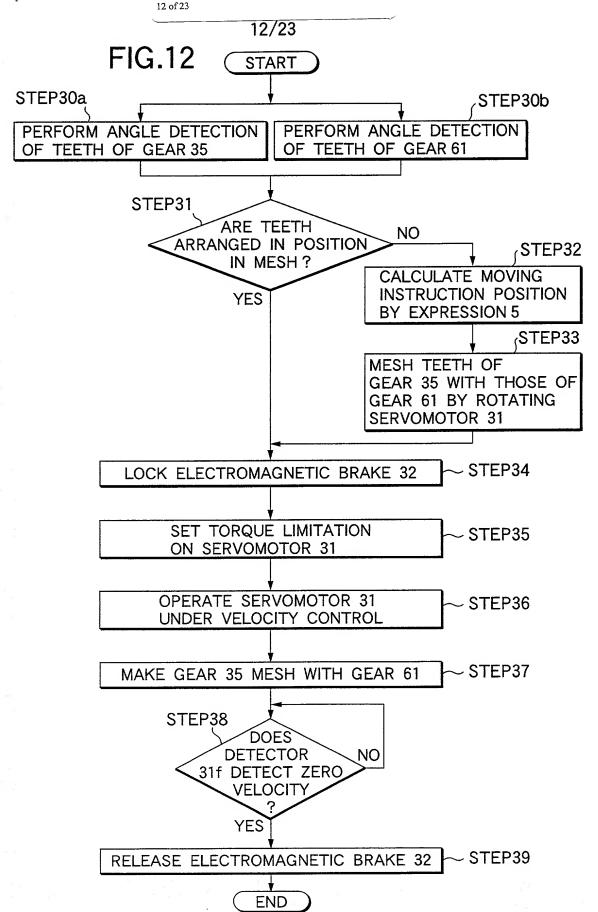
ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
10 of 23



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
13 of 23

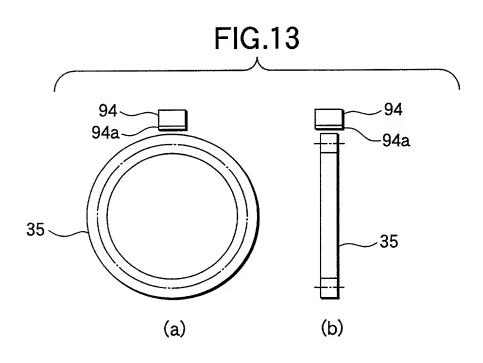
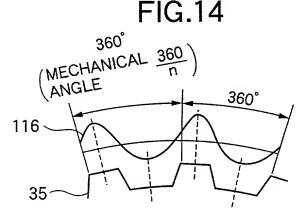


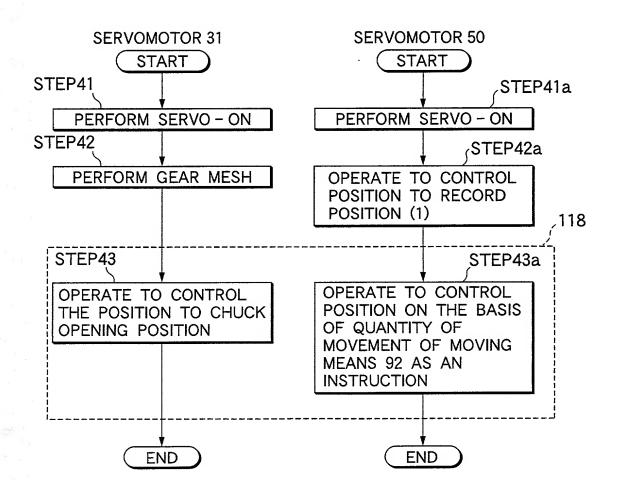
FIG.14



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
14 of 23

14/23

FIG.15



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060

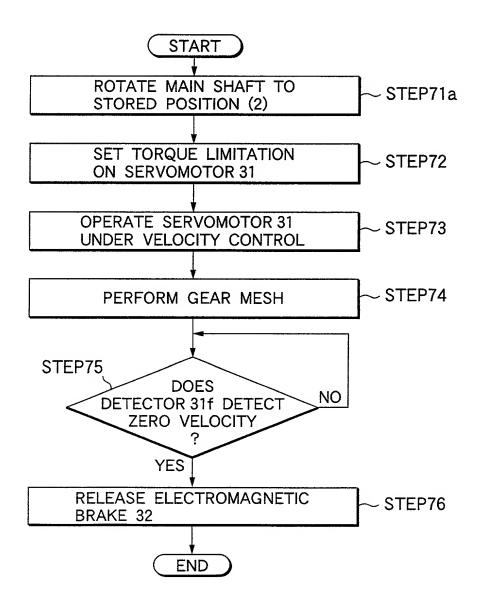
15 of 23 15/23 FIG.16 **SERVOMOTOR 20 SERVOMOTOR 31 START START** STEP51b STEP51a PERFORM SERVO - ON PERFORM SERVO - ON STEP52a ,118 PERFORM GEAR MESH STEP52b STEP53a OPERATE TO CONTROL MOVE MOVING MEANS TO POSITION JUST POSITION ON THE BASIS BEFORE CHUCK CLAW OF QUANTITY OF HOLDING POSITION MOVEMENT OF MOVING MEANS 92 AS AN STEP54a. **INSTRUCTION** SET TORQUE LIMITATION STEP55a PERFORM VELOCITY-CONTROL **OPERATION** .119 STEP53b STEP56a DOES PERFORM CURRENT DETECTOR NO POSITION RECORD (1) 31f DETECT ZERO STEP54b VELOCITY SET FORQUE LIMITATION STEP55b STEP57a **PERFORM** RELEASE TORQUE VELOCITY-CONTROL LIMITATION **OPERATION** STEP58a STORE THE MAIN STEP56b SHAFT ROTATIONAL DOES POSITION (2) **DETECTOR** NO STEP59a. 20c DETECT ZERO **VELOCITY** LOCK ELECTROMAGNETIC BRAKE 32 STEP57b STEP60a RELEASE TORQUE PERFORM GEAR LIMITATION SEPARATION STEP58b STEP61a PERFORM SERVO-ON PERFORM SERVO-ON

END

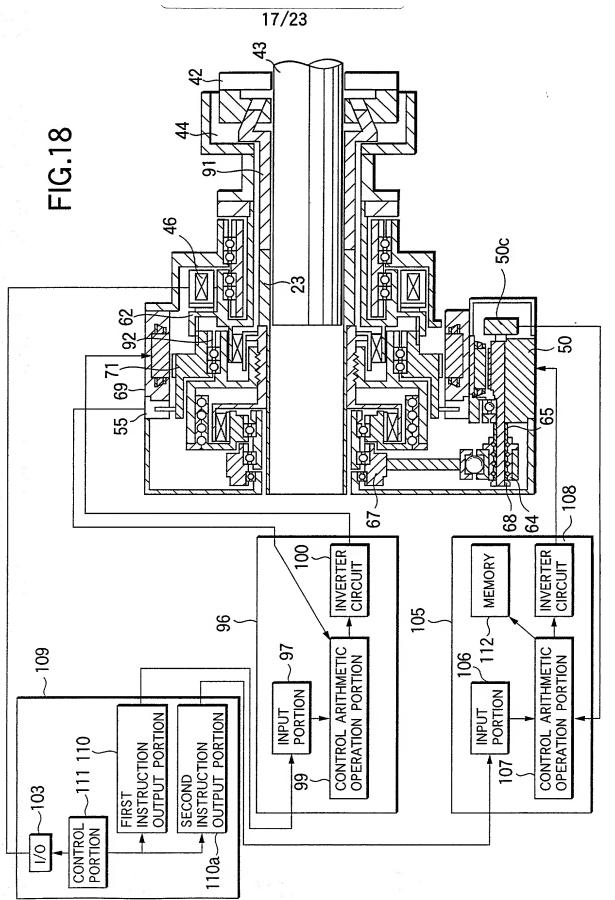
END

ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
16 of 23

FIG.17



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
17 of 23



202-293-7060 18 of 23 18/23 **FIG.19 START** ► STEP81 LOCK ELECTROMAGNETIC BRAKE 46 **SERVOMOTOR 50 SERVOMOTOR 69** STEP82b STEP82a PERFORM SERVO - ON PERFORM SERVO - ON ,118 STEP83a STEP83b OPERATE TO CONTROL MOVE RECIPROCATION-POSITION ON THE BASIS TO-ROTATION CONVERTING OF QUANTITY OF MEANS AND ROTATION-TO-MOVEMENT OF MOVING RECIPROCATION CONVERTING MEANS 92 AS AN MEANS TO POSITIONS INSTRUCTION JUST BEFORE CHUCK CLAW .119 STEP84a SET TORQUE LIMITATION STEP84b STEP85a PERFORM CURRENT POSITION RECORD (1) **PERFORM** VELOCITY-CONTROL STEP85b **OPERATION** SET TORQUE LIMITATION STEP86b STEP86a DOES **PERFORM** DETECTOR NO VELOCITY-CONTROL 55 DETECT ZERO **OPERATION** VELOCITY STEP87b YES DOES DETECTOR NO STEP87a 50b DETECT ZERO **VELOCITY** PERFORM SERVO-OFF STEP88b PERFORM SERVO-OFF STEP88a STEP89b RELEASE TORQUE RELEASE TORQUE LIMITATION LIMITATION RELEASE ELECTROMAGNETIC BRAKE 46 ~ STEP90 **END**

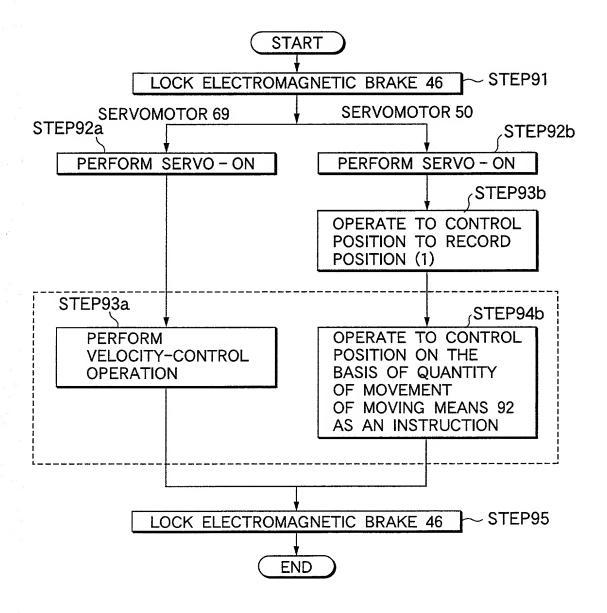
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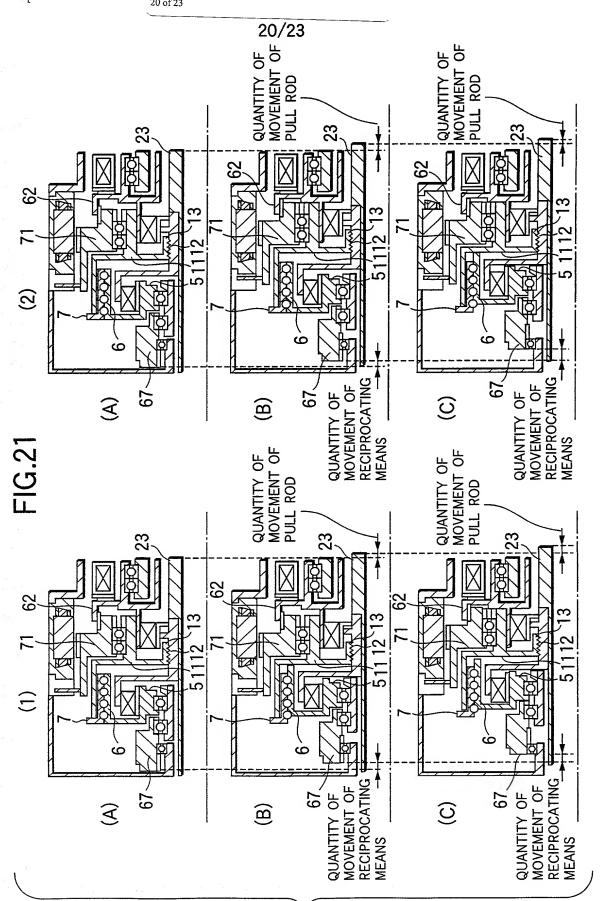
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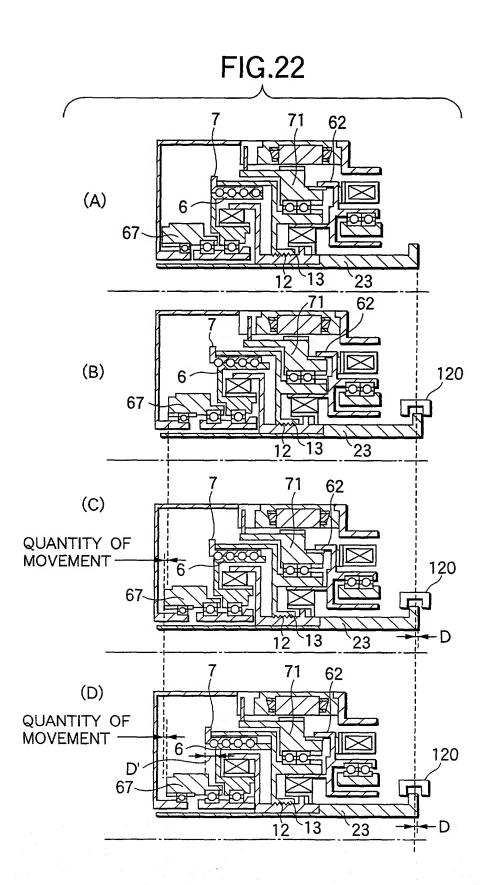
Q68131 THRUST CONVERTER AND METHOD APPARATUS FOR CONTROLLING THRUST CONVERTER

ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
19 of 23

FIG.20

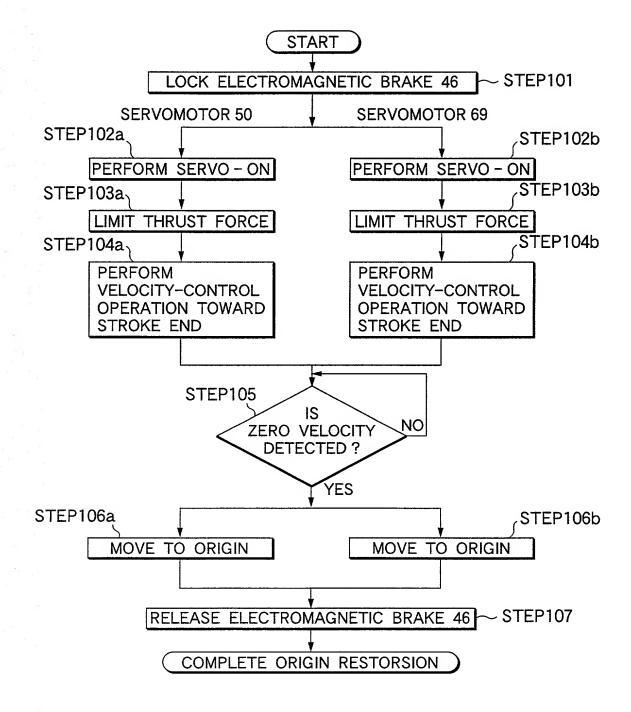






ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
22 of 23

FIG.23



ITO, et al. Q68131
THRUST CONVERTER AND METHOD APPARATUS
FOR CONTROLLING THRUST CONVERTER
Filed: February 12, 2002
Darryl Mexic
202-293-7060
23 of 23

